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10/019,587	03/13/2002	Shigeki Kanbara	TPS014-US1	1699

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EXAMINER

DHARIA, PRABODH M

ART UNIT	PAPER NUMBER
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2629

DATE MAILED: 05/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

2. **Status:** Please all the replies and correspondence should be addressed to examiner's new art unit 2629. Receipt is acknowledged of papers submitted on 1-30-2006 under amendments and new claims, which have been placed of record in the file. Claims 16-34 are pending in this action. Claims 1-15 are cancelled.

Response to Amendment

3. The amendments to abstract and claims are sufficient to overcome the objection to abstract and claims. Therefore objection to claims and abstract is withdrawn.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 16-18, 21,23,28,29,34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kambara et al. (6,091,406) in view of Citron (4,926,010).

Regarding Claim 16, Kambara teaches an acoustic contact detecting device (Col. 6, Line 38-56, Col. 14, Line 58 to Col. 15, Line 2, Col. 17, Line 61-Col. 18, Line 50; and

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figure 5, Col. 19, Lines 45-50, Col. 23, Lines 18-21, Lines 60-63, Col. 30, lines 56-62, Col. 27, Lines 19-29) comprising a substrate (Col. 6, Line 45) having a top surface (Col. 6, Line 47) an acoustic wave transducer coupling with a first wave (Col. 6, Lines 39-41) representative of a bulk wave being propagated through said substrate along an axis crossing said top surface (Col. 6, Lines 39-41, 51-56); a diffractive acoustic wave mode coupler having a mode of converted wave having high energy on said top surface and functioning for coupling a second wave being propagated along an axis parallel to said top surface with said first wave (Col. 14, Line 58 to Col. 15, Line 2); and a means for detecting a perturbation in energy of said second wave (Col. 17, Line 61-Col. 18, Line 50; and figure 5), a planar wiring [wire cables] supplies said acoustic wave transducer with electric power (Col. 19, Lines 45-50, Col. 23, Lines 18-21, Lines 60-63, Col. 30, lines 56-62, Col. 27, Lines 19-29).

However, Kambara fails to recite or disclose specifically a planar wiring.

However, planar wiring is well known to one ordinary skill in the art. Citron teaches planar wiring for acoustic Col. 1, Lines 49-53, Lines 62-65).

Thus it would have been obvious to one in the ordinary skill in the art at the time of invention was made to incorporate the teaching of planar wiring by Citron in teaching Gillespie et al. teaching, to be able to provide with this arrangement, improved energy transfer between the x-y digitizing system and the resonant stylus can be achieved and/or improved position measurement accuracy can be obtained.

Regarding Claim 17, Kambara teaches a coordinate input device of touch type (Col. 12, Lines 32-35) comprising a propagation medium having a top surface capable

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of propagating an acoustic wave (Col. 6, Lines 39-41, 51-56); a bulk wave generation means for propagating a bulk wave in a crossing direction with respect to said top surface of said propagation medium (Col. 11, Lines 56-63); an acoustic wave generation means and propagating said acoustic wave on the top surface of said propagation medium (Col. 12, Lines 46-58); and a detecting means for detecting a scatter in the surface of the acoustic wave from said acoustic wave generation means (Col. 12, Line 59 to Col. 13, Line 6, Col. 17, Line 61 to Col. 18, Line 50; and figure 5); a planar wiring [wire cables] supplies said acoustic wave transducer with electric power (Col. 19, Lines 45-50, Col. 23, Lines 18-21, Lines 60-63, Col. 30, lines 56-62, Col. 27, Lines 19-29).

However, Kambara fails to recite or disclose specifically a planar wiring.

However, planar wiring is well known to one ordinary skill in the art. Citron teaches planar wiring for acoustic Col. 1, Lines 49-53, Lines 62-65).

Thus it would have been obvious to one in the ordinary skill in the art at the time of invention was made to incorporate the teaching of planar wiring by Citron in teaching Gillespie et al. teaching, to be able to provide with this arrangement, improved energy transfer between the x-y digitizing system and the resonant stylus can be achieved and/or improved position measurement accuracy can be obtained.

Regarding Claims 18,29 Kambara teaches that said acoustic wave transducer is composed of a piezoelectric vibrator (piezoelectric transducer 4a and 4b, Col. 8, Lines 47-57; Col. 17, Line 61-Col. 18, Line 12; Col. 19, Lines 61-64; and figure 5).

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Regarding Claims 21,34 Kambara teaches that said wiring is formed on a back surface of the substrate (Col. 17, Line 61-Col. 18, Line 12, Col. 23, Lines 2-4).

Regarding Claim 23, Kambara teaches a touch input device (Col. 17, line 57) comprising a substrate (Col. 12, Line 33), having a first planar surface (Col. 8, Lines 19-25) and a second planar surface (Col. 8, Lines 19-25, 32-34); an acoustic wave transducer for generating acoustic waves (Col. 8, Lines 38-40), the acoustic wave transducer coupled to the second planar surface such that generated acoustic waves are transmitted to the first planar surface (Col. 12, Lines 48-64, Col. 17, Line 61 to col. 18, Line 50; Col. 35, Lines 9 - 18; and figure 5); a planar wiring [wire cables] supplies said acoustic wave transducer with electric power, (Col. 19, Lines 45 – 50, Col. 23, Lines 18-21, Lines 60-63, Col. 30, lines 56-62, Col. 27, Lines 19-29).

However, Kambara fails to recite or disclose specifically a planar wiring.

However, planar wiring is well known to one ordinary skill in the art. Citron teaches planar wiring for acoustic (Col. 1, Lines 49-53, Lines 62-65).

Thus it would have been obvious to one in the ordinary skill in the art at the time of invention was made to incorporate the teaching of planar wiring by Citron in teaching Gillespie et al. teaching, to be able to provide with this arrangement, improved energy transfer between the x-y digitizing system and the resonant stylus can be achieved and/or improved position measurement accuracy can be obtained.

Regarding Claim 28, Kambara teaches a linear array of acoustically reflective elements (Col. 2, Lines 4-10, Lines 33-42) on the first planar surface (Col. 2, Lines 4-10, Lines 33-42, Col. 8, Lines 19-28) and wherein the planar wiring resides on a portion of the second planar surface substantially opposite to the linear acoustically reflective elements (Col. 17, Line 61 to Col. 18, Line 50; Col. 35, Lines 9-18; and figure 5).

However, Kambara fails to recite or disclose specifically a planar wiring.

However, planar wiring is well known to one ordinary skill in the art. Citron teaches planar wiring for acoustic (Col. 1, Lines 49-53, Lines 62-65).

Thus it would have been obvious to one in the ordinary skill in the art at the time of invention was made to incorporate the teaching of planar wiring by Citron in teaching Gillespie et al. teaching, to be able to provide with this arrangement, improved energy transfer between the x-y digitizing system and the resonant stylus can be achieved and/or improved position measurement accuracy can be obtained.

6. Claims 19,20,22,26,27, 30-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kambara et al. (6,091,406) in view of Citron (4,926,010) as applied to claims 16-18, 21,23,28,29,34 above, and further in view of Grunwald et al. (5,009,708).

Regarding Claims 19,30, Kambara fails to teach the wiring is formed by using conductive paste.

However, Grunwald teaches forming wiring on a substrate by using conductive paste (Col. 1, Lines 16-34; Col. 3, Lines 3-7).

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It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the conductive paste as taught by Grunwald with the acoustic contact detecting device to more easily manufacture the device (Col. 2, Lines 36 -59; Col. 4, lines 46- 51).

Regarding Claims 20,31-33 Kambara fails to teach that the wiring is formed by using transfer printing.

Grunwald teaches forming wiring on a substrate by using transfer printing (Col. 1, Lines 16 – 34; Col. 3, Lines 3 – 7 and Col. 1, Lines 44-47).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the conductive paste as taught by Grunwald with the acoustic contact detecting device to more easily manufacture the device (Col. 2, Lines 36-59; Col. 4, Lines 46- 51).

Regarding Claim 22, Kambara teaches a substrate (Col. 12, Line 33), for an acoustic detection device having a top surface (Col. 2, Lines 4-10, Lines 33-42, Col. 8, Lines 19-28) comprising an acoustic wave transducer (Col. 2, Lines 4-10, Lines 33-42, Col. 8, Lines 19-28) coupled with a bulk wave having a propagation axis crossing said top surface in said substrate (Col. 12, Lines 29-59); a diffractive acoustic wave mode coupling structure formed in the proximity to said surface for converting acoustic energy of the bulk wave (Col. 14, Line 58 to Col. 15, Line 2); into a wave to be propagated along an axis parallel to said top surface (Col. 12, Lines 29-59); and a means for

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detecting the converted acoustic wave energy corresponding to a position of a perturbation event (Col. 17, Line 61 to Col. 18, Line 50; and figure 5). A planar wiring [wire cables] supplies said acoustic wave transducer with electric power (Col. 19, Lines 45 –50, , Col. 23, Lines 18-21, Lines 60-63, Col. 30, lines 56-62, Col. 27, Lines 19-29).

Kambara does not specifically teach that the wiring is printed on.

Grunwald teaches that wiring is applied by printing (Col. 1, Lines 23-29).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the printed wiring as taught by Grunwald with the acoustic contact detecting device to more easily manufacture the device (Col. 2, Lines 36-59; Col. 4, Lines 46-51).

Regarding Claim 26, Grunwald teaches that the conductive paste is a composite conductive material (Col. 1, lines 23 – 29).

Regarding Claim 27, Grunwald teaches that wiring is applied by transfer printing (Col. 1, lines 23 – 29).

Allowable Subject Matter

7. Claims 24,25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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8. The following is an examiner's statement of reasons for allowance:

a touch input device, comprising: (a) a substrate having a first planar surface and a second planar surface; (b) an acoustic wave transducer for generating acoustic waves, the acoustic wave transducer coupled to the second planar surface such that generated acoustic waves are transmitted to the first planar surface; (c) planar wiring printed on the second planar surface; and (d) means for connecting the planar wiring to the acoustic wave transducer; **the means for connecting the planar wiring to the acoustic wave transducer comprises a first electrode that couples a first portion of a first side of the transducer to a first portion of the planar wiring and a second electrode that couples a second portion of the first side of the transducer to a second portion of the planar wiring wherein the second electrode extends from the first side of the transducer to a second side of the transducer opposed to the first portion of the first side of the transducer and the first portion of the planar wiring is insulated from the second portion of the planar wiring.**

The cited references on 892's fails to teach above underlined bold claim.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Arguments

9. Applicant's arguments, see remarks, filed 01-30-2006, with respect to the rejection(s) of claim(s) 1-21 under amendments have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Citron (4,926,010).

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Chamuel (4,144,519) Position sensing readout.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prabodh M. Dharia whose telephone number is 571-272-7668. The examiner can normally be reached on M-F 8AM to 5PM.

12. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

13. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status

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information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

PD

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May 11, 2006


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